File System (FS) using inodes MAT3501 - Principles of Operating System, MIM - HUS

Compilation: run 'make'. Run 'fsshell' and type 'help'.

Disk structure: Block 0: boot sector, left empty Block 1: super block (defined in fs.h) Block 2: inode table (defined in fs.h) Block 3: default 1st block of root dir

Super block: Inode 0 is reserved for root dir Root dir starts at data block 3 Free blocks: chained together as a linked list, starting from block 4

Inodes: mode: 2 bytes, 4 most significant bits are used for file types (regular/directory/symlink) linkcount: count hardlinks in regular files, or number of entries in a directory/symlink file size: keeps file size direct pointer: points to data blocks; number of direct pointers is defined by DIRECTBLOCKS indirect pointers: use 1 extra data block allocated to the file when size grows of of direct block limit

Directory entry: file name inode deleted (to mark a file as deleted)